

### REMARKS

Claims 22-43 were previously pending in this application. By this amendment, Applicant is canceling claim 33 without prejudice or disclaimer. Claims 22, 32, 36 and 38 have been amended to remove the recitation of IL-12 without acquiescing to the Examiner's position and in the interest of expediting prosecution. Claims 22, 32, 36 and 38 have been further amended to add the recitation "8 to 100 nucleotides." Support for this amendment can be found within the specification in abridging paragraph, pages 31-32. Claim 23 has been amended to clarify that the immunopotentiating cytokine and the antigen are fused to form a fusion protein. Support for this amendment can be found on page 12, lines 21-24. As a result claims 22-32 and 34-43 are pending for examination with claims 22, 32, 36 and 38 being independent claims. No new matter has been added.

### Objections to the Specification

The Examiner objected to the disclosure for reciting U.S. Serial Numbers (USSNs) that have now issued as U.S. Patents.

The Applicant has amended the specification by updating the USSNs with their respective U.S. patent numbers. Applicant has further amended the specification to correct a typographical error of the term "disclosed" in the abridging paragraph beginning at page 33, line 26. No new matter has been added.

Accordingly, withdrawal of this objection is respectfully requested.

### Withdrawn Rejections under 35 U.S.C. §112

Applicant acknowledges that the rejection of claims 22-43 under 35 U.S.C. §112, first paragraph, were withdrawn.

### Rejections under 35 U.S.C. §112

The Examiner rejected claims 22-24, 26-30 and 32-34 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

The Examiner states that claims 22-24 and 26-30 are indefinite for reciting "antigen optionally additionally administered" in claim 22 and "antigen-cytokine fusion protein" in dependent claim 23.

In response, the Applicant has amended claim 23 to recite the phrase "the immunopotentiating cytokine and the antigen are fused to form an antigen-cytokine fusion protein" to clarify that the fusion protein of claim 23 contains both the cytokine and the antigen from claim 22. Support for this amendment can be found in the specification on page 12, lines 21-24.

The Examiner further states that claims 32-34 are indefinite for reciting "activating a dendritic cell of an immunostimulatory CpG" in claim 32.

In response, the Applicant has amended claim 32 to add commas separating "dendritic cell" from "of an immunostimulatory CpG," thereby clarifying that the composition comprises an immunostimulatory CpG oligonucleotide and an IL-3 cytokine in an effective amount for synergistically activating a dendritic cell.

Accordingly, withdrawal of the rejection of claims 22-24, 26-30 and 32-34 under 35 U.S.C. §112 is respectfully requested.

#### Rejections Under 35 U.S.C. §102

The Examiner rejected claim 32 under 35 U.S.C. §102(a) as being anticipated by Chace, et al. (Clinical Immunology and Immunopathology, 84(2):185-193, August 1997), as evidenced by Krieg A.M. (Trends in Microbiology, 4(2):73-77, February 1996).

The Applicant respectfully disagrees with this rejection. However, in the interest of expediting prosecution, the Applicant has amended claim 32 to remove the recitation of IL-12. The Applicant believes this obviates this rejection.

Accordingly, withdrawal of this rejection is respectfully requested.

#### Rejections Under 35 U.S.C. §103

The Examiner rejected claims 22-32, 34-43 under 35 U.S.C. §103(a) as being obvious over Chace et al. (Clinical Immunology and Immunopathology, 84(2):185-193, August 1997), as evidenced by Krieg A.M. [A] (Trends in Microbiology, 4(2):73-77, February 1996) in view of

Krieg et al [B] (U.S. Patent No. 6,207,646 B1, 2/7/1995) and Maecker et al (Vaccine, 15(15):1687-1696, 10/7/1997), and in view of Krieg et al.

The Examiner stated that, in view of these references, "it would have been obvious to one skilled in the art to have produced a composition and a method ... with IL-12 and a CpG oligonucleotide ...." The Applicant although not agreeing with the Examiner's position, but in the interest of expediting prosecution, has amended claims 22, 32, 36 and 38 to remove the recitation of IL-12. The Applicant believes this obviates this rejection.

Accordingly, withdrawal of this rejection is respectfully requested.

The Examiner rejected claims 22-32 and 34-43 under 35 U.S.C. §103(a) as being obvious over Krieg et al. (U.S. Patent 6,207,646 B1, 2/7/1995) in view of Gately et al (Therapeutic Immunology, 1:187-196, 1994) and Ballas et al (The Journal of Immunology, 157:1840-1845, 1996) and Noll et al (Infection and Immunity, 64(8):2955-2961, August 1996) and Levy et al. (U.S. Patent No. 6,099,846, 102(4) dated 4/14/1995).

The Examiner stated that, in view of these references, "it would have been obvious to one skilled in the art to have produced a composition and a method ... with IL-12 and a CpG oligonucleotide ...." The Applicant respectfully disagrees with the Examiner's position. However, in the interest of expediting prosecution, the Applicant has amended claims 22, 32, 36 and 38 to remove the recitation of IL-12. The Applicant believes this obviates this rejection.

Accordingly, withdrawal of this rejection is respectfully requested.

The Examiner rejected claims 22-31 and 38-43 under 35 U.S.C. §103(a) as being obvious over Krieg et al. (U.S. Patent 6,207,646 B1, 2/7/1995) in view of Noll et al (Infection and Immunity, 64(8):2955-2961, August 1996) and Brunda M. J. (Res. Immun., 146:622-628, Sept-Oct. 1995) and Pulaski et al (Cancer Research, 53:2112-2117, 1993) and Korenaga et al (Parasitology Research, 82:108-113, 1996) and Levy et al (U.S. Patent 6,099,846, 102(e) date 4/14/1995).

The Applicant respectfully disagrees with this rejection. References Krieg et al., Noll et al., Brunda, and Levy et al., fail to disclose any specific therapeutic applications for IL-3. In particular, as indicated by the Examiner, Krieg et al. "do not specifically teach a method of

stimulating an immune response, or a method for treating a subject having a neoplastic disorder with IL-3 or IL-12 and a CpG oligonucleotide....” Pulaski et al. and Korenaga et al. report on specific uses for IL-3, but fail to teach or suggest any combination therapies involving IL-3 and a CpG oligonucleotide. Accordingly, Applicant submits that the cited references fail to provide any motivation to combine their disclosures in order to obtain the presently claimed invention. Furthermore, the cited references fail to provide any expectation for obtaining the claimed synergistic combination of an IL-3 cytokine and a CpG oligonucleotide. Accordingly, Applicants submit that the cited references do not form the basis for continued rejection under 35 U.S.C. §103(a).

In the rejection, the Examiner cited In re Kerkhoven, 205 USPQ 1069, CCPA 1980, for the proposition that “it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose.”

Applicant respectfully submits that the analysis of In re Kerkhoven does not apply to the present claims for at least two reasons. First, in In re Kerkhoven, the compositions of the combined prior art and the claimed invention were not simply useful for the same purpose, they were also composed of the same ingredients. The court held that a process of preparing a spray-dried detergent by mixing together two prior art spray-dried detergents was *prima facie* obvious. In other words, the two prior art detergents (A, B) were combined to obtain the claimed detergent (C). In contrast, in the instant case the compositions of the prior art (an IL-3 cytokine and a CpG oligonucleotide), while allegedly useful for the same purpose (to stimulate an immune response), are not composed of the same ingredients. Second, the claimed combination of detergents in In re Kerkhoven was not synergistic. In contrast, the present claims relate to a synergistic combination of an IL-3 cytokine and a CpG oligonucleotide.

Accordingly, withdrawal of this rejection is respectfully requested.

#### Double Patenting Rejection

The Examiner rejected claim(s) 22-43 under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 4-12 and 14-23 of U.S. Patent No. 6,218,371 B1 in view of Gately et al (Therapeutic Immunology, 1:187-196, 1994) and

Ballas et al (The Journal of Immunology, 157:1840-1845, 1996) and Pulaski et al (Cancer Research, 53:2112-2117, 1993) and Korenaga et al. (Parasitology Research, 82:108-113, 1996).

The Applicant respectfully disagrees with this obviousness-type double patenting rejection. The Notice of Allowability of the parent application (U.S. Serial No. 09/286,098 now issued U.S. Patent No. 6,218,371) stated that "according to current policy at the PTO, in order for synergism to be enabled there must be explicit data for each of the cytokines, and that one cannot predict synergistic effects for one molecule based on data observed for another (closely related) molecule." If maintained, the present obviousness-type double patenting rejection appears to be inconsistent with this statement. Specifically, the present obviousness-type double patenting rejection suggests that a synergistic combination of IL-3 and a CpG oligonucleotide is obvious over previously claimed methods relating to combinations of other cytokines with a CpG oligonucleotide. Therefore, the Applicant respectfully requests reconsideration of this rejection.

Accordingly, withdrawal of the rejection of claims 22-43 for obviousness-type double patenting is respectfully requested.

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Conf. No.: 9046

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**CONCLUSION**

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,  
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